



(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
21.05.2003 Bulletin 2003/21

(51) Int Cl.7: H03L 7/07

(43) Date of publication A2:  
12.02.2003 Bulletin 2003/07

(21) Application number: 02017661.6

(22) Date of filing: 06.08.2002

(84) Designated Contracting States:  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
IE IT LI LU MC NL PT SE SK TR  
Designated Extension States:  
AL LT LV MK RO SI

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(30) Priority: 07.08.2001 JP 2001239279

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(54) Clock producing circuit capable of suppressing phase shift at a time of change from active clock to standby clock

(57) A clock producing circuit comprises a phase comparator to produce a comparison signal representing phase difference between a first output clock produced by a first PLL and a second output clock produced by a second PLL. The comparison signal is supplied to a digital filter included in the second PLL. The digital filter updates filter coefficients thereof to reduce the phase difference while the first output clock is selected as a

selected output signal. Thus, the second output clock coincides the first output clock in phase. If the first reference clock disappears, the second output clock instead of the first output clock is selected as the selected output clock. At the same time, the digital filter stops updating the filter coefficients. A phase shift is not caused in the selected output clock by changing from the first output clock to the second output clock.

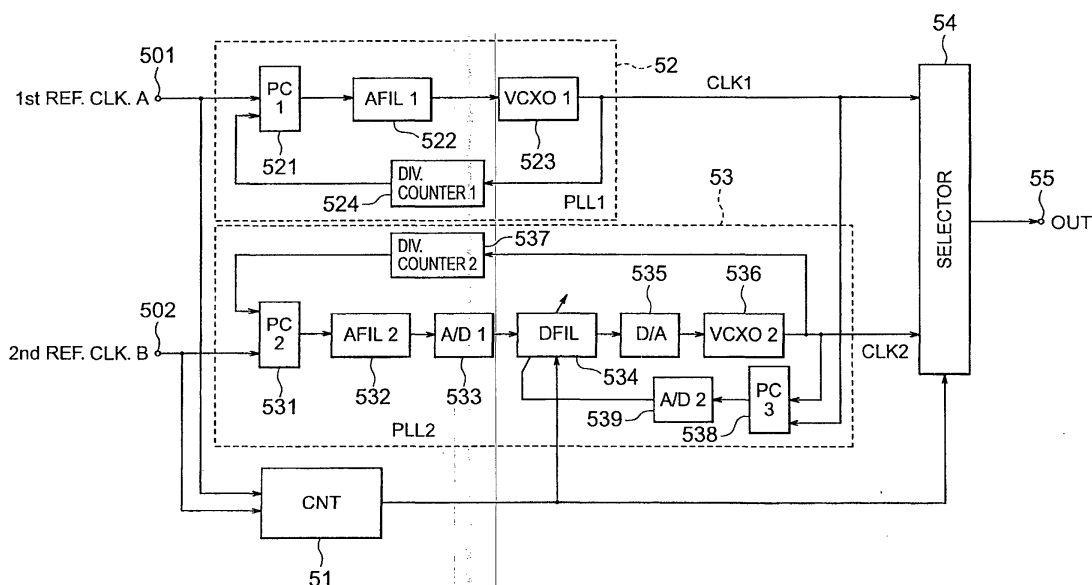


FIG. 5



European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 02 01 7661

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                              |                                                   |                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Citation of document with indication, where appropriate, of relevant passages                                                                                                | Relevant to claim                                 | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                              |                                                   | H03L<br>G06F                                 |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                              |                                                   |                                              |
| Place of search<br>MUNICH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                              | Date of completion of the search<br>26 March 2003 | Examiner<br>Waters, D                        |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                                                                              |                                                   |                                              |

EPO FORM 1503 03.82 (P04001)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 02 01 7661

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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26-03-2003

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